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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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CHA & REITER, LLC
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EXAMINER

SEFCHECK, GREGORY B

ART UNIT	PAPER NUMBER
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2619

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/825,814

Applicant(s)

LEE ET AL.

Examiner

Gregory B. Sefcheck

Art Unit

2619

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 November 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

- Applicant's Amendment filed 11/15/2007 is acknowledged.
- The previous objection to the drawings is withdrawn in light of the present amendments to Figs. 1 and 2.
- Claims 3 and 12 have been amended. The previous objection to claims 3 and 12 is withdrawn.
- Claim 13 has been added.
- Claims 1-13 remain pending.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 4, 6, 8-10, and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Koch et al. (US 20040042446A1), hereafter Koch.

- Regarding Claims 1, 6, and 8-10,

Koch discloses a method of maintaining routing information in an Ethernet passive optical network that utilizes DHCP for assigning IP addresses to requesting

nodes (Title; Abstract; Fig. 2; Pg. 3, paragraph 28; claim 1,10 – method for assigning IP addresses in an Ethernet passive optical network).

Referring to Fig. 2, Koch discloses PON interface 12 and DHCP server 36 (together constituting the claimed OLT) connected to several groupings (ONTs) 26A-M of network nodes 28 through PON interface modules (communication interfaces) 34A-M (claim 1,6,10 – network includes plurality of ONTs and OLT including a DHCP server; claim 6 – OLT comprising a communication interface to the ONTs).

Koch discloses IP address pools are established within a selected subnet scope corresponding to the respective node groupings 26 and PON interface modules 34 (Pg. 2, paragraph 23; Pg. 4, paragraph 44; claim 1,8,10 – establishing IP address pools including at least one IP address according to the ONTs).

Referring to Figs. 2-4, Koch discloses that a DHCP client of a node 28 requests an IP address, the request including a MAC address unique to the client (Pg. 3, paragraph 33). PON interface 12 performs MAC processing on the request to create a mapping to a PON interface module 34 and DHCP relay agent 38 on which the DHCP client resides (Pg. 3, paragraph 34; Pg. 4, paragraph 42; claim 1,6,10 – searching for an ONT from a MAC processing section of the OLT by means of a MAC address from which IP address assignment is requested when IP address assignment is requested from one of the ONTs, the ONT being connected to a DHCP client).

Koch shows that the request is forwarded on to the DHCP server 36, which responds with an assigned IP address retrieved from the pool of addresses within the appropriate subnet sent through the PON interface module 34 associated with the

grouping 26 on which the client resides (Pg. 4, paragraphs 44-47; claim 1,9,10 - assigning an available IP address existing in an IP address pool established for the ONT having requested the IP address assignment according to ONTs).

- Regarding Claim 4,

Koch discloses a method and network meeting all limitations of the parent claim.

Koch discloses that the IP address pools are established within a common subnet scope corresponding to the groupings 26 of nodes 28 (Pg. 2, paragraph 23; Pg. 4, paragraph 44). Koch further discloses groupings 26 may includes 1-N nodes servicing one or more clients, thereby requiring the IP address pool of a particular subnet/group be sufficient to accommodate the number of clients within the node grouping (Pg. 1, paragraph 8; Pg. 2, paragraph 20; claim 4 – establishing IP address pools according to a number of subscribers who will be assigned IP addresses).

- Regarding Claim 13,

Koch discloses a method and network meeting all limitations of the parent claim.

Referring to Fig. 2, Koch discloses determining the appropriate interface module 34 for forwarding the assignment from the server 26 to the requesting node 28, such that the assignment is not broadcasted to all of the interface modules (Pg. 3, paragraph 35; claim 13 – DHCP server assigns an IP address to an ONT without broadcasting the assignment).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koch in view of Barnard et al. (US 20030005097A1), hereafter Barnard.

- Regarding Claims 2 and 11,

Koch discloses a method and network meeting all limitations of the parent claim.

Koch does not explicitly disclose transmitting a response signal from the ONT having requested IP address assignment to the DHCP server when the ONT is assigned an IP address from the DHCP server.

Barnard discloses transmitting an address acknowledgement (response signal) from a requesting device to a DHCP server that has assigned an IP address to the requesting device (Fig. 9; Pg. 5, paragraph 47; claim 2,11 – transmitting a response signal from the ONT having requested IP address assignment to the DHCP server when the ONT is assigned an IP address from the DHCP server).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Koch by transmitting a response signal from a requesting client through the corresponding ONT to the DHCP server when an IP address has been

assigned, as shown by Barnard, thereby confirming the assignment and allowing notification of the assignment to other devices in the network.

5. Claims 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koch in view of Sobel et al. (US007249187B2), hereafter Sobel.

- Regarding Claims 3 and 12,

Koch discloses a method and network meeting all limitations of the parent claim.

Koch does not explicitly disclose rejecting the IP address assignment request in the DHCP server when there is no available IP address in the IP address pool established for the ONT having request the IP address assignment.

Sobel discloses enforcement of compliance with network security protocols (Title). Sobel discloses that DHCP client requests for IP address assignment are rejected if there are no addresses available, and the client must repeat the requesting process at a later time (Col. 5, lines 37-50; claim 3,12 – rejecting the IP address assignment request in the DHCP server when there is no available IP address in the IP address pool established for the ONT having request the IP address assignment).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Koch by rejecting DHCP client requests when there is no available IP address, as shown by Sobel, thereby preventing network access to client devices when the network does not have the bandwidth to accommodate the client's communication.

6. Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koch in view of Tams et al. (US006862286B1), hereafter Tams.

- Regarding Claims 5 and 7,

Koch discloses a method and network meeting all limitations of the parent claim.

Koch does not explicitly disclose allowing an operator to establish the IP address pools through an operator interface.

Tams discloses tracking dynamic addresses on a network in which a DHCP server manages a pool of IP addresses (Title; Col. 1, lines 35-36). Tams discloses a network manager (operator) establishes the pool of IP addresses that are managed by various DHCP servers and supplies that information to a network monitoring system (Col. 4, lines 15-30; claim 5,7 – allowing an operator to establish the IP address pools through an operator interface).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Koch by providing a network manager that manages the establishment of IP address pools in the DHCP servers of the network, as shown by Tams. This would allow the network to track the assignment of IP addresses and current mappings to MAC addresses on the network, thereby optimizing the use of the available IP addresses.

Response to Arguments

7. Applicant's arguments filed 11/15/2007 have been fully considered but they are not persuasive.

- In the Remarks on pg 7-8 of the Amendment, Applicant contends that Koch does not disclose "including a dynamic host configuration protocol server in the OLT" as recited in claims 1, 6, and 10. Applicant submits that considering the PON interface 12 and DHCP server 36 of Koch as constituting an OLT, as in the Office Action filed 8/17/2007, is counter-intuitive and "contrary to industry used and understood definitions, as well as the operation of the reference itself." Additionally, Applicant submits that Koch's disclosure of DHCP proxy agent 38 in the PON interface also does not constitute a DHCP server because it does not perform the functions of the server.
- The Examiner respectfully disagrees. The claims call for an Ethernet passive optical network (PON) that includes an OLT and a plurality of ONTs. Fig. 2 of Koch shows a plurality of node groups 26A-M (corresponds to claimed plurality of ONTs). Fig. 2 shows that each node group connects to a common network infrastructure (corresponds to claimed OLT) that includes PON interface 12 as well as routers 20 and DHCP server 36. The rejection takes the position that all of the common network infrastructure disclosed by Koch can be considered the OLT that serves the plurality of ONTs, as claimed. Applicant contends that a person of ordinary skill would not refer to a server and an interface module connected via a router as an OLT. However,

contrary to Applicant's assertions, there is no basis in the claims that prevents "including" a DHCP server to an OLT by means of a router, switch, or any other network component or link. Therefore, based upon the broadest reasonable interpretation of the claims, the rejections based upon the cited disclosures in Koch is proper.

- Furthermore, the Examiner wishes to note that the inclusion of DHCP server proxy agents 38 in the PON interface modules 34 of PON interface 12 would also meet the contested claim limitation of "including a DHCP server in the OLT" since the proxy agents act as an extension of the respective DHCP server 36 for the particular interface module 34 of each node group 26. Contrary to Applicant's arguments on pg. 10 of the Remarks, the claims do not require the ability to perform the full function set of a DHCP server in order to be "included" in the OLT. Rather, this configuration of Koch enables the DHCP server to provide IP address assignment according to the ONTs, the same problem contemplated by Applicant on pg. 4 of the Specification and the stated purpose of Applicant's disclosure (Pg. 5, Summary of the Invention). Newly-added claim 13 is shown to be rejected (above) due to this configuration as well, where IP address assignment from a DHCP server to a requesting node within a node group can be performed "without broadcasting the assignment" since the appropriate interface module 34 is determined for forwarding the assignment from the server to the requesting node 28.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action (claim 13). Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory B. Sefcheck whose telephone number is 571-272-3098. The examiner can normally be reached on Monday-Friday, 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing Chan can be reached on 571-272-7493. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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GBS *GBS*
1-22-2008

Wing Tu Chan
WING CHAN 1/23/08
SUPERVISORY PATENT EXAMINER